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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/065,091 | 09/17/2002 | Fang-Chen Luo | 5486-US-PA | 4158 |

31561 7590 10/23/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,091

Applicant(s)

LUO ET AL.

Examiner

Tarifur R. Chowdhury

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under ~~Ex parte Quayle~~, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 24-33 and 44-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 56-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

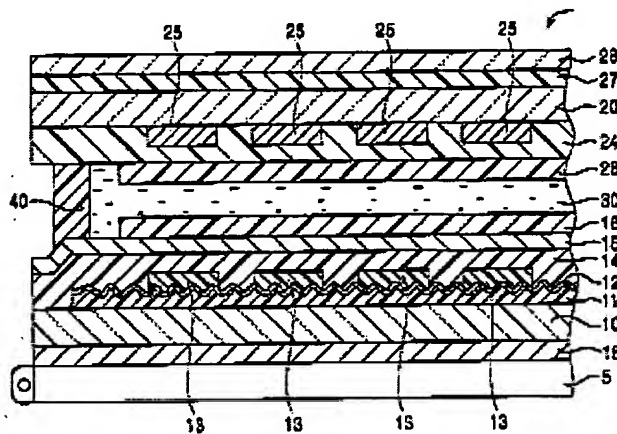
2. **Claims 1-5, 7-12 and 56-61 are rejected under 35 U.S.C. 102(e) as being anticipated by Tanada et al., (Tanada), US 2002/0054257.**

3. Tanada discloses and shows in Fig. 1, a liquid crystal display (LCD) structure comprising a first substrate panel (10) made of glass, a second substrate panel and a liquid crystal layer (30) disposed between the first substrate panel and the second substrate panel, a plurality of pixel portions being formed by respective electrodes for applying a voltage to the liquid crystal layer, each of the pixel portions comprising:

- an organic insulating layer (11) such as photosensitive resin solution, such as acrylic resin (page 3, [0046]) over the first substrate panel (1), wherein the surface of the organic insulating layer has a plurality of protrude/recess structures thereon;
- a conformal reflective layer (12) over the organic insulating layer (11), wherein the conformal reflective layer serves as a reflector of light;

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- a transparent dielectric layer (14) (insulating) over the conformal reflective layer (12), wherein the dielectric layer has a substantially planar surface (smoother upper surface than the bumpy organic insulating layer); and
- a first transparent conductive layer (15) over the transparent dielectric layer (14), wherein the conformal reflective layer (12) is electrically isolated from the first transparent conductive layer (15).



Accordingly, claims 1-4, 9, 56-58 and 61 are anticipated.

As to claim 5 and 59, Tanada discloses (page 5, [0078]) that his invention is also applicable to a three-terminal type (thin-film transistor: TFT) active matrix liquid crystal display. It is inherent for a thin film transistor to have a gate electrode, a source terminal and a drain terminal.

As to claim 7, Tanada discloses (page 3, [0053]) that the reflective layer (12) is composed of a metallic material having high reflectance, such as Al or Ag.

As to claims 8 and 60, Tanada shows in Fig. 1 that the transparent dielectric layer (14) includes a color filter layer (13).

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As to claims 10 and 12, Tanada further shows in Fig. 1 that the LCD structure further includes a second transparent conductive layer (25) over the second substrate panel (20) and the liquid crystal layer (30) between the second transparent conductive layer and the first transparent conductive layer.

As to claim 11, Tanada also shows in Fig. 1 that the surface of the second substrate panel on the opposite side of the liquid crystal layer further includes a phase compensation plate (27) and a polarizer (28).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanada.**

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6. As to claim 13, Tanada shows in Fig. 1 that the color filter (13) is formed between the first substrate panel (10) and the first transparent conductive layer (15). However, placing the color filter on the second substrate so that it is between the second substrate panel (20) and the second substrate conductive layer (25) would not change the function or the display and thus would have been obvious to one of ordinary skill in the art to obtain a color display.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanada in view of Nakai et al., (Nakai), USPAT 6,144,429.

8. Tanada discloses the LCD as recited above, however, fails to specifically disclose that the first conductive layer is connected to the TFT for controlling the liquid crystal layer.

Nakai discloses an LCD device (Fig. 13) having a first conductive layer (14) connected to the TFT (19) through the contact hole (22) and source electrode (25) for controlling the liquid crystal layer.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the first conductive layer of Tanada connected to the TFT for controlling the liquid crystal layer since one would be motivated to provide a configuration that makes it possible to control the reflective layer, as it is situated in between the transistor and the transparent conductive layer, in order to provide a high efficiency of light utilization (col. 14, lines 59-60) in the control of the liquid crystals in addition to improved whitening, power savings due to a reduced resistance, and higher speed of operation (col. 4, lines 61-67). Ultimately, this not only provides improved

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picture quality (col. 4, lines 65-66), but also provides a display device that is more easily controlled and is more stable for optimal performance (col. 2, lines 14-17).

Response to Arguments

9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. - Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th 7:30-5:00; 1st Friday Off; 2nd Friday 7:30-4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TRC
October 12, 2006



TARIFUR Chowdhury
Primary Examiner